

## ABSTRACT

To provide a highly hard coating film formed on a substrate, as adhered to the surface of the substrate and having a refractive index of from 1.28 to 1.41 and a contact angle with water of from 90° to 115°.

A coating film having a refractive index of from 1.28 to 1.41 and a contact angle with water of from 90° to 115°, which is formed as adhered to a substrate surface by forming a reaction mixture comprising a silicon compound (A) of the formula  $\text{Si}(\text{OR})_4$ , a silicon compound (B) of the formula  $\text{CF}_3(\text{CF}_2)_n\text{CH}_2\text{CH}_2\text{Si}(\text{OR}^1)_3$ , a silicon compound (C) of the formula  $\text{H}_2\text{NCOH}(\text{CH}_2)_m\text{Si}(\text{OR}^2)_3$ , an alcohol (D) of the formula  $\text{R}^3\text{CH}_2\text{OH}$  and oxalic acid (E), in a specific ratio, heating this reaction mixture at a temperature of from 40 to 180°C in the absence of water to form a solution of a polysiloxane, then applying a coating fluid comprising the polysiloxane solution on a substrate surface to form a coating, and heat-curing the coating at a temperature of from 40 to 450°C; a process for forming such a coating film, and a process for producing such a coating fluid.